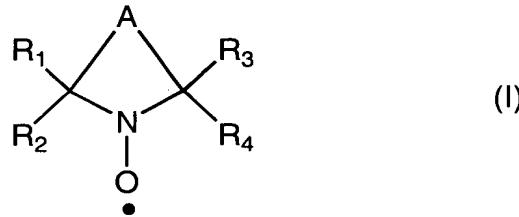


We Claim:

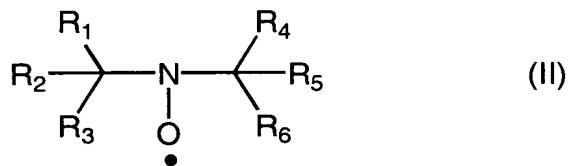
1. A finishing process for modifying cellulosic textiles comprising oxidizing the cellulosic textile via a nitroxide-mediated method whereby a controlled quantity of aldehyde and carboxyl functionality in a ratio of greater than about 5 0.5 based on the moles of each functionality are imparted to the textile.
2. The process of Claim 1 wherein the nitroxide-mediated method is conducted in a suitable medium with an oxidant in the presence of an effective amount of a nitroxyl radical mediator.
3. The process of Claim 2 wherein the suitable medium is water.
- 10 4. The modified cellulosic textile of Claim 2 wherein the nitroxyl radical mediator is a di-tertiary alkyl nitroxyl radical having a formula of

NPD



(I)

or



(II)

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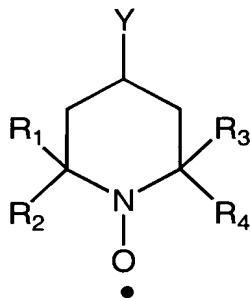
A is a chain having two or three atoms and each atom is selected from the group consisting of carbon, nitrogen, and oxygen; and each R₁-R₆ group represents the same or different alkyl groups.

NPD 5. The process according to Claim 4 further comprising at least one co-catalyst.

6. The process of Claim 1 wherein the oxidation of the cellulosic textile results in an aldehyde content of from about 1 to about 20 mmole/100 g of cellulose contained in the cellulosic textile.

7. A process according to Claim 4 wherein the nitroxyl radical mediator is

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wherein Y is H, OH, OR', NH-C(O)-R', OC(O)R', keto or acetal derivatives and R' is alkyl or aryl; and each of the R₁-R₄ groups represent the same or 10 different alkyl groups of 1 to 18 carbon atoms.

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8. The process of Claim 7 wherein the nitroxyl radical mediator is TEMPO or 4-acetamido TEMPO.

9. The process of claim 2 wherein the effective amount of the nitroxyl radical mediator is from about 0.001 to 20% by weight based on the weight of cellulose in the cellulosic textile.

10. The process according to claim 2 wherein the oxidant is an alkali or alkaline-earth metal hypohalite having an oxidizing power of up to 10.0 g active chlorine per 100 g of the cellulose.

11. The process of claim 10 wherein the oxidant is sodium hypochlorite or 20 sodium hypobromite.

12. The process of Claim 4 further comprising oxidation of the cellulosic textile in the presence of an alkali or alkaline-earth metal halide.

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13. The process of Claim 12 wherein the oxidant is from about 0.1 to about 5% sodium hypochlorite; the nitroxyl radical mediator is from about 0.001 to about 0.02% 4-acetamido TEMPO; and the alkali or alkaline-earth metal halide is from about 0.01 to about 2.5% sodium bromide and all percentages being based on the weight of the cellulose in the cellulosic textile.

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14. The method of Claim 13 further comprising oxidation of the cellulosic textile in the presence of a buffering agent.

15. The method of Claim 14 wherein the buffering agent is sodium bicarbonate present in the amount of from about 0.1 to about 5% based on the weight of cellulose contained in the cellulosic textile.

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16. The process of Claim 1 further comprising modification of the aldehyde functionality with a compound or polymer containing an aldehyde reactive functionality selected from the group consisting of hydroxyl, thiol, amino, amido and imido groups.

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17. The process of Claim 1 further comprising modification of the carboxyl functionality with a compound containing an carboxyl reactive functionality selected from the group consisting of hydroxyl or amino groups.

18. The modified cellulosic textile finished by the process of Claim 1.

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19. A modified cellulosic textile having a combination of inherent durable press properties, improved moisture content and improved wicking properties compared to a corresponding untreated cellulosic textile.

20. A garment prepared from the cellulosic textile of Claim 18.

21. A garment prepared from the cellulosic textile of Claim 19.